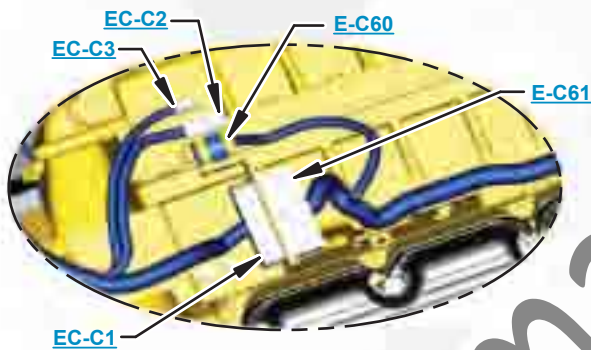


***This document is best viewed at a screen resolution of 1024 X 768.***

To set your screen resolution do the following:  
**RIGHT CLICK** on the **DESKTOP**.  
 Select **PROPERTIES**.  
**CLICK** the **SETTINGS TAB**.  
**MOVE THE SLIDER** under **SCREEN RESOLUTION** until it shows **1024 X 768**.  
**CLICK OK** to apply the resolution.

The Bookmarks panel will allow you to quickly navigate to points of interest.



Click on any text that is BLUE and underlined. These are hyperlinks that can be used to navigate the schematic and machine views.

**VIEW ALL CALLOUTS**

When only one callout is showing on a machine view this button will make all of the callouts visible. This button is located in the top right corner of every machine view page.

HOTKEYS (Keyboard Shortcuts)		
	FUNCTION	KEYS
	Zoom In	"CTRL" / "+"
	Zoom Out	"CTRL" / "-"
	Fit to Page	"CTRL" / "0" (zero)
	Hand Tool	"SPACEBAR" (hold down)
	Find	"CTRL" / "F"



# Schematic

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## **315D, 318D and 319D Excavator Electrical System**

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**315D:**  
JHA1-UP  
KBD256-UP  
CJN1737-UP

**318D:**  
ZKJ1-UP

**319D:**  
FMH162-UP  
EAW192-UP

**Volume 1 of 2: Cab**  
**Volume 2 of 2: Engine and Chassis**

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# COMPONENT LOCATION

## Volume 1 of 2 - CAB



Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
Antenna	D-12	6	Relay - Lamp Caution ATCH	E-11	D
Antenna As	J-12	7	Relay - Chassis Lamp	E-9	D
Antenna As - PL, Roof	D-12	6	Relay - Main	C-10	D
Alarm - Action	E-1	E	Relay - Neutral Start	D-9	D
Block As	I-13	H	Relay - QC Hydraulic Lock 1 ATCH	D-11	D
Block As - Terminal	I-13	H	Relay - QC Hydraulic Lock 2 ATCH	D-11	D
Breaker - Alternator	I-12	H	Relay - QC Hydraulic Lock On ATCH	D-11	D
Breaker -Heater	I-12	H	Relay - QC Hydraulic Lock Priority ATCH	D-11	D
Breaker - Main	I-12	H	Relay - Start	I-13	H
Buss Bar	I-12	H	Relay - Start Control	F-8	D
Coil - Exciter ATCH	H-1	A	Relay - Tool Priority ATCH	F-11	D
Control - Wiper	D-2	F	Relay - Travel Alarm	D-9	D
Converter - 12V / 10A 1 ATCH	I-5	C	Resistor	E-2	F
Converter - 12V Power	C-7	F	Resistor - Backup	E-7	C
Converter - Radio ATCH	C-7	F	Resistor - Backup Crane ATCH	F-11	D
Diode - Accessory	I-6	D	Resistor - CAN 1, PLJ	C-13	1
Diode - Alternator	F-5	D	Resistor - 2	E-2	F
Diode - Hydraulic Lock	I-6	D	Socket - 12V / 10A A ATCH	D-5	F
Diode - Lamp	E-9	D	Socket - 12V / 10A B ATCH	D-5	F
Diode - Relay Main	C-10	D	Solenoid - Boom Up ATCH	J-2	C
Diode - Relay Start	I-13	H	Solenoid - Bucket Lock ATCH	J-2	C
Diode - Solenoid Boom Up ATCH	I-2	C	Solenoid - Stick Out Stop ATCH	I-2	C
Diode - Solenoid Bucket Lock ATCH	I-2	C	Speaker (Right)	F-3	6
Diode - Solenoid Stick Out Stop ATCH	I-2	C	Speaker (Left)	F-3	7
Fuse Base - Power Switched	E-8	D	Strap - PA, Platform to Chassis Gnd	H-13	H
Fuse Base - Power Unswitched	E-8	D	Strap - PC, Disconnect - Gnd	H-13	H
Ground - Cab 1	D-3	A	Suspension - Air ATCH	J-4	B
Ground - Cab 2	F-3	6	Switch - Auxiliary Pump Pressure ATCH	I-1	C
Ground - Cab 3	D-6	J	Switch - Backup Crane ATCH	G-1	A
Ground - Chassis 6	I-12	C	Switch - Backup EPR Valve	G-3	A
Ground - Platform 1	I-11	C	Switch - Backup Governor	G-3	A
Heater - Seat ATCH	G-3	A	Switch - Crane Cancel ATCH	C-6	F
Holder As	I-13	H	Switch - Disconnect	H-13	H
Joystick - LH (4 Switch) ATCH	I-3	B	Switch - Fine Swing Control ATCH	C-2	F
Joystick - LH ATCH	I-3	B	Switch - Foot Pedal ATCH	J-1	C
Joystick - RH (4 Switch) ATCH	I-2	A	Switch - Horn	I-3	B
Joystick - RH ATCH	I-1	A	Switch - High Pressure ATCH	I-1	C
Key Reader - MSS ATCH	H-2	A	Switch - Joystick Pressure ATCH	H-5	C
Lamp - Cab LH, ATCH	F-1	4	Switch - Key	G-1	A
Lamp - Cab RH, ATCH	F-1	5	Switch - Limit Neutral Start	J-3	B
Lamp - Dome	F-3	G	Switch - Leveling ATCH	C-3	F
Lighter - Cigar	E-2	A	Switch - Lower Washer ATCH	C-3	F
Meter - Service	E-1	E	Switch - Lower Washer ATCH	C-3	F
Module - Gateway Worldview	E-12	1	Switch - Medium Pressure ATCH	I-1	C
Monitor	E-1	E	Switch - One Touch Low Idle	H-2	A
Motor - Lower Wiper ATCH	I-1	C	Switch - Overload Warning ATCH	C-4	F
Motor - Wiper	D-2	E	Switch - Quick Coupler ATCH	C-1	F
Panel - Switch	D-2	F	Switch - Quick Coupler Universal ATCH	C-1	F
Pedal - LH ATCH	I-1	C	Switch - Radio Mute ATCH	C-4	F
Product Link - Japan ECM	C-12	1	Switch - Seat Heater ATCH	C-5	F
Radio - AM/FM	G-2	A	Switch - Secondary Shutdown	G-8	2
Radio - Product Link 2nd Generation ATCH	D-12	1	Switch - Smart Boom Select ATCH	C-4	F
Relay - Air Heater	I-13	H	Switch - STEM 2 Pressure ATCH	H-1	C
Relay - Beacon ATCH	D-9	D	Switch - Throttle Position	G-1	A
Relay - Boom Float Disable ATCH	E-11	D	Switch - Tool Priority ATCH	C-2	F
Relay - Boom Smart Down ATCH	E-11	D	Switch - Under Window Limit ATCH	E-1	E
Relay - Boom Smart Up/Down ATCH	E-11	D	Switch - Window Limit	F-2	E
Relay - Caution Lamp ATCH	F-11	D	Timer - Lamp Delay ATCH	C-11	D
Relay - Horn	E-9	D	Unit - AC	G-11	D
Relay - Boom Lamp	E-9	D	Unit - Indicator	H-1	A
Relay - Cab Lamp	E-9	D			

Check Part Numbers in the Parts Manuals for your Specific Machine.

A = Located on or inside right console.

B = Located on or inside left console.

C = Located under platform.

D = Located behind operator seat.

E = Located on or inside front right cab panel.

F = Located on or inside right side operator switch panel.

G = Located in or under cab headliner.

H = Located in disconnect panel.

J = Located in compartment behind cab.

# COMPONENT LOCATION

## Volume 2 of 2 - ENGINE AND CHASSIS



Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
Alarm - Travel ATCH	C-6	R	Sensor - Pressure, Intake Manifold	F-10	L
Alternator	F-11	L	Sensor - Pressure, Low Fuel	F-10	L
Battery - Front	J-10	K	Sensor - Pressure, Oil	F-10	L
Battery - Rear	J-11	K	Sensor - Speed , Crank (Primary Timing)	G-10	L
Block As	J-1	J	Sensor - Speed , Fuel Pump (Secondary Timing)	F-10	L
Block As - Terminal	I-1	J	Sensor - Temperature, Coolant	F-10	L
Block GP - Junction	J-11	K	Sensor - Temperature, Fuel Pump	F-10	L
Breaker - Alternator	J-1	J	Sensor - Temperature, Fuel	F-10	L
Breaker - Heater	I-1	J	Sensor - Temperature, Intake Air	F-10	L
Breaker - Main	I-1	J	Solenoid - 1 Way/2 Way Exchange ATCH	F-14	M
Camera - Rear View	E-13	14	Solenoid - 1P/2P Exchange ATCH	F-8, F-14, H-14, I-14	M
Control - Engine	I-10	L	Solenoid - 2 Way Lever Change ATCH	J-9	K
Control - Machine	F-2	J	Solenoid - AC Compressor Clutch	F-11	L
Diode - Start Relay	J-1	J	Solenoid - Boom Check 1 ATCH	D-3	5
Ground - Battery Room	J-11	15	Solenoid - Boom Check 2 ATCH	C-3	5
Ground - Chassis 1	I-1	C	Solenoid - Boom Line Down Cutoff ATCH	G-6	M
Ground - Chassis 2	G-7, I-13, G-13, F-13	L	Solenoid - Boom Regene	H-6	M
Ground - Chassis 3	D-11	L	Solenoid - Fine Swing ATCH	C-3	4
Ground - Chassis 4	E-11	L	Solenoid - Flow Combiner 1 ATCH	F-8	N
Heater - Air	F-12	L	Solenoid - Flow Combiner 2 ATCH	E-8	N
Holder As	J-1	J	Solenoid - Hydraulic Lock	I-7	J
Horn - Forward Warning (High)	C-1	4	Solenoid - Leveling ATCH	H-6	13
Horn - Forward Warning (Low)	C-1	4	Solenoid - NFC Control 1 ATCH	E-8	N
Injector #1	E-10	L	Solenoid - NFC Control 2 ATCH	E-8	N
Injector #2	E-10	L	Solenoid - NFC Limit ATCH	B-11	N
Injector #3	E-10	L	Solenoid - Power Shift Control	B-11	N
Injector #4	E-10	L	Solenoid - Quick Coupler ATCH	C-11	N
Lamp - Boom (LH) ATCH	C-1	12	Solenoid - Stem 1 Extend ATCH	I-14, G-14, E-8	M
Lamp - Boom (RH) ATCH	C-1	11	Solenoid - Stem 1 Retract ATCH	I-14, G-14, E-8	M
Lamp - Caution ATCH	C-1	14	Solenoid - Stem 2 Extend ATCH	E-8	M
Lamp - Chassis	C-1	16	Solenoid - Stem 3 Extend ATCH	D-8	7
Motor - Starter	E-11	L	Solenoid - Stem 3 Retract ATCH	D-8	7
Motor - Washer	J-3	J	Solenoid - Swing Brake Cancel	I-7	J
Motor - Washer ATCH	J-3	J	Solenoid - Travel Speed Change	I-7	J
Pickup - Engine Speed	E-10	L	Solenoid - Universal QC High ATCH	C-11	N
Potentiometer - Boom ATCH	B-2	5	Solenoid - Universal QC Low ATCH	C-11	N
Potentiometer - Stick ATCH	C-1	10	Solenoid - Variable Relief 1 ATCH	F-8, F-14, H-14, J-14	M
Pump - Refueling ATCH	F-4	R	Solenoid - Variable Relief 2 ATCH	F-8, F-14, H-14, J-14	M
Receptacle As	F-11	15	Switch - 2 Way Lever Change ATCH	I-9	K
Receptacle As ATCH	J-11	K	Switch - Air Cleaner	I-9	K
Relay - Air Heater	J-1	L	Switch - Disconnect	I-1	J
Relay - Air Heater 2	J-1	J	Switch - Hammer Return Filter ATCH	H-6	J
Relay - Start	J-1	J	Switch - Hydraulic Oil Filter	B-8	P
Resistor - CAN 1	F-2	J	Switch - Level Coolant	J-9	K
Resistor - CAN 2	F-2	J	Switch - Level Engine Oil	F-11	L
Sender - Hydraulic Oil Temperature	C-8	P	Switch - Level Hydraulic Oil	B-8	P
Sensor - Level Fuel	C-6	R	Switch - Level Refueling ATCH	B-8	R
Sensor - Level Water Separator ATCH	J-9	K	Switch - Pressure Boom Down	H-6	M
Sensor - Pressure Boom Cyl Head ATCH	B-2	5	Switch - Pressure Boom Down ATCH	F-6	M
Sensor - Pressure Boom Cyl Rod ATCH	B-2	8	Switch - Pressure Boom Priority ATCH	F-8, F-14, H-14, I-14	M
Sensor - Pressure OLWD ATCH	B-2, D-3	5	Switch - Pressure Boom Up/Down ATCH	C-3	5
Sensor - Pressure Pump Discharge 1	B-11	N	Switch - Pressure Bucket Extend ATCH	G-6	M
Sensor - Pressure Pump Discharge 2	B-11	N	Switch - Pressure Implement	G-6	M
Sensor - Pressure Squeeze ATCH	F-8, H-14	N	Switch - Pressure Travel	G-6	M
Sensor - Pressure, Differential	F-10	L	Switch - Pressure 2ways Lever Chg ATCH	I-9	17
Sensor - Pressure, Fuel Manifold	F-10	L	Unit - Heater Control	N/A	J

Check Part Numbers in the Parts Manuals for your Specific Machine.  
 Machine locations are repeated for components located close together.  
 C = Located under platform.  
 J = Located in compartment behind cab.  
 K = Located in battery compartment.

L = Located in engine compartment  
 M = Located on or around control valve  
 N = Located in pump room  
 P = Located on or around hydraulic tank  
 R = Located on or around fuel tank

# CONNECTOR LOCATION

## Volume 1 of 2 - CAB



Connector Number	Schematic Location	Machine Location
CONN 1	<a href="#">H-14</a>	<a href="#">3</a>
CONN 2	<a href="#">G-14</a>	<a href="#">3</a>
CONN 3	<a href="#">G-14</a>	<a href="#">3</a>
CONN 4	<a href="#">G-14</a>	<a href="#">3</a>
CONN 5	<a href="#">F-14</a>	<a href="#">3</a>
CONN 6	<a href="#">F-14</a>	<a href="#">3</a>
CONN 7	<a href="#">F-14</a>	<a href="#">3</a>
CONN 8	<a href="#">E-14, D-14, C-14</a>	<a href="#">3</a>
CONN 9	<a href="#">C-14</a>	<a href="#">3</a>
CONN 10	<a href="#">D-14</a>	<a href="#">3</a>
CONN 11	<a href="#">D-14, E-14</a>	<a href="#">3</a>
CONN 12	<a href="#">D-14, E-14</a>	<a href="#">3</a>
CONN 13	<a href="#">C-10</a>	<a href="#">D</a>
CONN 14	<a href="#">G-9</a>	<a href="#">D</a>
CONN 15	<a href="#">G-8</a>	<a href="#">D</a>
CONN 16	<a href="#">G-7</a>	<a href="#">D</a>
CONN 17	<a href="#">F-7</a>	<a href="#">D</a>
CONN 18	<a href="#">E-7</a>	<a href="#">D</a>
CONN 19	<a href="#">E-7</a>	<a href="#">D</a>
CONN 20	<a href="#">D-7</a>	<a href="#">D</a>
CONN 21	<a href="#">D-7</a>	<a href="#">D</a>
CONN 22	<a href="#">G-6</a>	<a href="#">D</a>
CONN 23	<a href="#">G-6</a>	<a href="#">D</a>
CONN 24	<a href="#">G-5</a>	<a href="#">D</a>
CONN 25	<a href="#">D-6</a>	<a href="#">F</a>
CONN 26	<a href="#">C-6</a>	<a href="#">F</a>
CONN 27	<a href="#">C-6</a>	<a href="#">F</a>
CONN 28	<a href="#">G-5</a>	<a href="#">D</a>
CONN 29	<a href="#">I-5</a>	<a href="#">B</a>
CONN 30	<a href="#">I-5</a>	<a href="#">B</a>
CONN 31	<a href="#">H-4</a>	<a href="#">A</a>
CONN 32	<a href="#">H-4</a>	<a href="#">A</a>
CONN 33	<a href="#">H-4</a>	<a href="#">A</a>
CONN 34	<a href="#">H-4</a>	<a href="#">A</a>
CONN 35	<a href="#">G-4</a>	<a href="#">A</a>
CONN 36	<a href="#">G-4</a>	<a href="#">A</a>
CONN 37	<a href="#">G-4</a>	<a href="#">A</a>
CONN 38	<a href="#">G-4</a>	<a href="#">A</a>
CONN 39	<a href="#">C-3</a>	<a href="#">F</a>
CONN 40	<a href="#">G-2</a>	<a href="#">A</a>
CONN 41	<a href="#">F-2</a>	<a href="#">G</a>
CONN 42	<a href="#">F-2</a>	<a href="#">G</a>
CONN 43	<a href="#">F-2</a>	<a href="#">G</a>
CONN 44	<a href="#">F-2</a>	<a href="#">G</a>
CONN 45	<a href="#">C-2</a>	<a href="#">F</a>
CONN 46	<a href="#">C-1</a>	<a href="#">F</a>
CONN 47	<a href="#">C-1</a>	<a href="#">F</a>
CONN 66	<a href="#">F-14</a>	<a href="#">C</a>
CONN 67 Rear View Camera	<a href="#">F-14</a>	<a href="#">J</a>

The connectors shown in this chart are for harness to harness connectors. Connectors that join a harness to a component are generally located at or near the component. See the Component Location Chart.

# CONNECTOR LOCATION

## Volume 2 of 2 - ENGINE AND CHASSIS



Connector Number	Schematic Location	Machine Location
CONN 1	<a href="#">I-2</a>	<a href="#">J</a>
CONN 2	<a href="#">H-2</a>	<a href="#">J</a>
CONN 3	<a href="#">H-2</a>	<a href="#">J</a>
CONN 4	<a href="#">G-2</a>	<a href="#">J</a>
CONN 5	<a href="#">G-2</a>	<a href="#">J</a>
CONN 6	<a href="#">G-2</a>	<a href="#">J</a>
CONN 7	<a href="#">G-2</a>	<a href="#">J</a>
CONN 9	<a href="#">F-2</a>	<a href="#">J</a>
CONN 47	<a href="#">J-13</a>	<a href="#">P</a>
CONN 48	<a href="#">E-9</a>	<a href="#">L</a>
CONN 49	<a href="#">I-7</a>	<a href="#">J</a>
CONN 50	<a href="#">I-12, H-12, F-12, F-7, F-6</a>	<a href="#">L</a>
CONN 51	<a href="#">I-12, H-12, F-12, F-7, F-6</a>	<a href="#">L</a>
CONN 52	<a href="#">D-7, E-6</a>	<a href="#">L</a>
CONN 53	<a href="#">E-6</a>	<a href="#">L</a>
CONN 54	<a href="#">D-6, E-6</a>	<a href="#">L</a>
CONN 55	<a href="#">B-6</a>	<a href="#">R</a>
CONN 56	<a href="#">H-5</a>	<a href="#">J</a>
CONN 57	<a href="#">H-5</a>	<a href="#">J</a>
CONN 58	<a href="#">C-4</a>	<a href="#">4</a>
CONN 59	<a href="#">B-4</a>	<a href="#">R</a>
CONN 8	<a href="#">J-3</a>	<a href="#">J</a>
CONN 61	<a href="#">C-2</a>	<a href="#">6</a>
CONN 62	<a href="#">C-2</a>	<a href="#">4</a>
CONN 63	<a href="#">C-2</a>	<a href="#">4</a>
CONN 66	<a href="#">F-2</a>	<a href="#">J</a>
CONN 67 - Rear Camera	<a href="#">F-2</a>	<a href="#">J</a>
CONN 68 - Accugrade	<a href="#">J-5</a>	<a href="#">J</a>
CONN 69	N/A	<a href="#">J</a>

The connectors shown in this chart are for harness to harness connectors. Connectors that join a harness to a component are generally located at or near the component. See the Component Location Chart.

<b>Component Identifiers (CID<sup>1</sup>) Module Identifier (MID<sup>2</sup>) Product Link Control (MID No. 122)</b>	
<b>CID</b>	<b>Component</b>
0168	Electrical System
0254	Electronic Control Module
0269	Sensor Power Supply
1251	Alternator R - Terminal

<sup>1</sup> The CID is a diagnostic code that indicates which circuit is faulty.

<sup>2</sup> The MID is a diagnostic code that indicates which electronic control module diagnosed the fault.

<b>Failure Mode Identifiers (FMI)<sup>1</sup></b>	
<b>FMI No.</b>	<b>Failure Description</b>
0	Voltage above normal range
1	Voltage below normal range
3	Voltage above normal
4	Voltage below normal
12	Failed module

<sup>1</sup>The FMI is a diagnostic code that indicates what type of failure has occurred.



Machine ECM (MID NO. 039)	
CID	Description
0041	+8 VDC Sensor Power Supply
0096	Fuel Level Sensor
0110	Engine Coolant Temperature Sensor
0167	Alternator Charging Voltage Sensor
0168	Electrical System Voltage
0190	Engine Speed Sensor
0246	Proprietary CAN Data Link
0247	SAE J1939 Data Link
0248	Cat Data Link
0254	Electronic Control Module
0262	+5 VDC Sensor Power Supply
0271	Action Alarm
0374	Swing Brake Solenoid
0581	Power Shift Solenoid
0586	Engine Speed Dial Switch
0588	Monitoring System Display
0590	Engine Control Module
0598	Travel Speed Solenoid
0600	Hydraulic Oil Temperature Sensor
0697	Priority Valve Solenoid
1129	Left Attachment Pedal Position Sensor
1130	Left Attachment Pedal Position Sensor
1160	Hydraulic Lock Solenoid
1178	Machine Overload Warning Pressure Sensor
1590	Main Pump Flow Limitation Pressure Solenoid
1593	Attachment Valve #1 Extend Pressure Solenoid
1594	Attachment Valve #2 Extend Pressure Solenoid
1595	Attachment Valve #3 Extend Pressure Solenoid
1596	Attachment Valve #1 Retract Pressure Solenoid
1597	Attachment Valve #2 Retract Pressure Solenoid
1598	Attachment Valve #3 Retract Pressure Solenoid
1609	F2 Type Valve Load Sense Pressure Sensor
1615	1-Way / 2-Way Valve Solenoid
1657	Left Joystick Thumbwheel
1658	Right Joystick Thumbwheel
1665	Variable Relief Valve #1 Pressure Solenoid
1666	Variable Relief Valve #2 Pressure Solenoid
1931	Auxiliary Circuit Flow Combining Solenoid
1956	Bucket Cylinder Position Sensor
1960	Ignition Key Reader
1968	Boom Cylinder Rod End Pressure Sensor
1969	Boom Cylinder Head End Pressure Sensor
2103	Boom Circuit Regeneration Solenoid
2265	Hydraulic Pump Number 1 Outlet Pressure Sensor
2266	Hydraulic Pump Number 2 Outlet Pressure Sensor
2280	Travel Alarm Relay
2300	Switch Panel
2420	Boom Cylinder Extend Limit Solenoid
2421	Boom Cylinder Retract Limit Solenoid
2422	Stick Cylinder Extend Limit Solenoid
2423	Stick Cylinder Retract Limit Solenoid
2424	Bucket Cylinder Retract Limit Solenoid
2425	Boom Angle Sensor
2426	Stick Angle Sensor
2429	Boom Cylinder Extend Pilot Pressure Sensor
2713	Stick Cylinder Retract Cab Contour Avoidance Solenoid
3042	Bucket Cylinder Extend Limit Solenoid

Component Identifiers (CID <sup>1</sup> ) Module Identifier (MID <sup>2</sup> ) Engine Control (MID No. 036)	
CID	Component
0001	Cylinder #1
0002	Cylinder #2
0003	Cylinder #3
0004	Cylinder #4
0041	8 Volt DC Supply Voltage
0091	Throttle Position Sensor
0094	Fuel Delivery Pressure Sensor
0095	Fuel Filter Differential Pressure Sensor
0100	Engine Oil Pressure Sensor
0110	Engine Coolant Temperature Sensor
0168	Electrical System Voltage
0172	Intake Manifold Air Temperature Sensor
0174	Fuel Temperature Sensor
0190	Primary Engine Speed Sensor
0253	Engine Software
0262	5 Volt Sensor DC Power Supply
0268	Customer or System Parameter
0342	Secondary Engine Speed Sensor
0460	Fuel Pressure Sensor
0617	Inlet Air Heater Relay
1639	Machine Security System Module
1779	Fuel Rail #1 Pressure Valve Solenoid
1785	Intake Manifold Pressure Sensor
1797	Fuel Rail Pressure Sensor
1834	Ignition Key Switch

Event Codes Engine Control	
Event Code	Condition
E0096	High Fuel Pressure
E0198	Low Fuel Pressure
E0265	User Defined Shutdown
E0360	Low Engine Oil Pressure
E0361	High Engine Coolant Temperature
E0362	Engine Overspeed
E0363	High Fuel Supply Temperature
E0390	Fuel Filter Restriction
E0396	High Fuel Rail Pressure
E0398	Low Fuel Rail Pressure
E0539	High Intake Manifold Air Temperature
E1044	High Intake Manifold Pressure
E1045	Low Intake Manifold Pressure

<sup>1</sup> The CID is a diagnostic code that indicates which circuit is faulty.

<sup>2</sup> The MID is a diagnostic code that indicates which electronic control module diagnosed the fault





<b>Failure Mode Identifier</b>	
<b>FMI</b>	<b>Description of Failure</b>
00	Data valid but above normal operating range (Most severe - Level 3)
01	Data valid but below normal operating range (Most severe - Level 3)
02	Data erratic, intermittent or incorrect
03	Voltage above normal or shorted high
04	Voltage below normal or shorted low
05	Current below normal or open circuit
06	Current above normal or grounded circuit
07	Mechanical system not responding properly
08	Abnormal frequency, pulse width, or period
09	Abnormal update rate
10	Abnormal rate of change
11	Failure mode not identifiable
12	Bad device or component
13	Out of calibration
14	Special Instruction
15	Data valid but above normal operational range (Least severe - Level 1)
16	Data valid but above normal operational range (Moderate severe - Level 2)
17	Data valid but below normal operational range (Least severe - Level 1)
18	Data valid but below normal operational range (Moderate severe - Level 2)
19	Received network data in error

<sup>1</sup>The FMI is a diagnostic code that indicates what type of failure has occurred.

# SPECIFICATIONS AND RELATED MANUALS

## Volume 1 of 2 - CAB



### Off Machine Switch Specification

Part No.	Function	Actuate	Deactuate	Contact Position <sup>1</sup>
167-3466	Auxiliary Pump Pressure (Stem 4 Status) High Pressure (Stem 1 Status) Joystick Pressure Medium Pressure (Stem 3 Status) Stem 2 Pressure (Stem 2 Status)	490 ± 49 kPa 71.05 ± 7.12 psi	290 kPa MIN 42.05 psi	Normally Open

<sup>1</sup> Contact position at the contacts of the harness connector.

### Related Electrical Service Manuals

Title	Form Number
Product Link Control	REN5885

### Resistor, Sender and Solenoid Specifications

Part No.	Component Description	Resistance (Ohms) <sup>1</sup>
126-2941	Resistor: Crane Backup	25 ± 1.25
102-8016	Resistor: Backup	47 ± 2.35
174-3016	Resistor: CAN 1/2	120 ± 12

<sup>1</sup> At room temperature unless otherwise noted.

# SPECIFICATIONS AND RELATED MANUALS

## Volume 2 of 2 - ENGINE AND CHASSIS



Off Machine Switch Specification				
Part No.	Function	Actuate	Deactuate	Contact Position
106-0179	Bucket Extend Pressure	1520 ± 98 Kpa 220.45 ± 14.21 Psi	1127 kPa 163.45 Psi	N.O.
167-3466	Boom Down Priority Pressure	490 ± 49kPa 71.05 ± 7.11 Psi	290 kPa MIN 42.1 Psi MIN	N.O.
170-9335	Implement Pressure Travel Pressure	2650 ± 200 kPa 384.35 ± 29 Psi	2150 ± 200 kPa 311.83 ± 29 Psi	N.O.
202-9002	Boom Up/Down Pressure	13780 kPa MAX 1998.62 Psi MAX	10335 ± 689 kPa 1498.96 ± 99.93 Psi	N.C.

Related Electrical Service Manuals		
Title		Form Number
Alternator:	51-8085	SENR2143
Electric Starting Motor:	125-2988	REGO0843
Engine Control:		KENR5442
Machine Control:		REN9848

Resistor and Sender Specifications		
Part No.	Component Description	Resistance (Ohms) <sup>1</sup>
174-3016	Resistor: CAN 1 / 2	120 ± 12
41-5394	Sender: Hydraulic Oil Temperature	6134-7496

<sup>1</sup> At room temperature unless otherwise noted.

# WIRE DESCRIPTION

Page 1 of 2



Wire Number	Wire Color	Description	Wire Number	Wire Color	Description
<b>Power Circuits</b>			<b>Control Circuits Continued</b>		
101	RD	Battery +	780	Pu	Quick Coupler Solinoid
103	YL	Dome Lamp	788	Yl	Eng Speed Sensor(+)
105	BR	Key Switch	789	Pk	Hydraulic Lock Diode
108	BU	Air Heater Power	877	Yl	Air Heater Relay
109	RD	Alt Output (+) Term.	892	Br	CAT Data Link -
112	PU	Main Relay Output	893	Gn	CAT Data Link +
113	OR	Switch Panel B+ Switched	936	Pu	Stick Out Stop Solenoid Diode
114	GN	Horn Relay	998	Br	Backup Governor Switch
115	PK	Cab Lamp Relay	999	Wh	Camshaft Speed/Timing
117	YL	12V Converter Switched Out +	A718	Pu	Start Aid Coolant Sensor Signal
118	GY	Wiper Control Switched Power	A745	Wh	Fuel Pressure
119	PK	Alternator Diode	A755	Pk	Throttle Position 1
120	YL	Converter 1 24V Switched In	A756	Bu	Throttle Position 2
123	WH	Seat Heater Switch	A757	Gy	Throttle Position 3
124	GN	A/C	A758	Br	Throttle Position 4
127	OR	Air Suspension	A762	Pu	Engine Speed Sensor +
129	BU	Cigar Lighter	A768	Bu	Power Shift Control Solenoid
130	GN	Engine Control Battery +	A769	Gy	Power Shift Control Solenoid
135	BU	Converter 1 12V Switched Out +	A770	Pk	Backup Resistor
139	OR	Radio Mute Switch	C855	Gy	Tool Priority Switch (Brush Cutter)
141	PK	Aux Ckt	E787	PK	Bucket Lock Pressure Relief Valve
142	BU	Aux Ckt	E997	Br	Hydraulic Lock Solenoid
143	BR	Boom Float Disable Relay	F716	Wh	Shutdown (NC)
147	PU	Leveling Switch	F772	Wh	Backup Sw
149	PU	Boom Lamp Relay	F773	Or	Governor Accelerate
152	BU	Under Window Limit Switch	F774	Wh	Governor Decelerate
154	WH	Neutral Start Limit Switch	F873	Yl	Start Relay
160	PU	Chassis Lamp Relay	F889	Wh	Backup Switch
165	YL	Crane Caution Lamp	G726	Gy	NFC Control Solenoid
168	GN	Housing As	G850	Bu	1 PWM 2A 2
169	PK	Backup Resistor	G976	Bu	Water Level Separator Sensor
172	GN	Product Link Unswitched Power	G979	Bu	Boom Up Priority Pressure Switch
175	PK	A/C Unit	H792	Br	Boom Up/Down Pressure Switch
177	OR	Main Brkr	H832	Yl	2 Way Lever Change Pressure Switch
179	BU	Converter 2 24V In +	J851	Br	Stick PWM Angle Sensor (AccuGrade)
180	GN	Auxiliary Circuit (Attachment Relays)	J853	Bl	Boom PWM Angle Sensor (AccuGrade)
184	BU	Battery +	J949	Gy	Bucket PSC (AccuGrade)
188	WH	Auxiliary Circuit	K768	Bu	Bucket Out Limit PRV (AccuGrade)
189	WH	Neutral Start Limit Switch	K770	Pu	Bucket In Limit PRV (AccuGrade)
199	OR	Action Alarm	K776	Gn	Alternator L Terminal
<b>Ground Circuits</b>			K777	Gy	Implement Pressure Switch
200	BK	Main Chassis	K843	Gn	Stem 3 Extend Switch
210	BK	Converter Output (24/12 Volt)	K844	Gy	Stem 4 Extend Switch
229	BK	Battery -	K847	Pu	Stem 3 Retract Switch
235	BK	Electronic Pump Control Ground	K848	Wh	Stem 4 Retract Switch
A209	BK	Hex Machine Control Ground	K849	Yl	Stem 1 High Pressure Switch
A250	BK	Battery -	K850	Br	Stem 2 Pressure Switch
<b>Basic Machine Circuits</b>			K851	Bu	Stem 3 Medium Pressure Switch
304	WH	Starter Motor	K852	Gn	Stem 4 Auxiliary Pump Pressure Switch
306	GN	Neutral Start Relay	K856	Pu	Stem 1 Extend Pressure Relief Valve
307	OR	Key Switch To Neutral Start Relay	K857	Wh	Stem 2 Extend Pressure Relief Valve
308	YL	Main Power Relay	K858	Yl	Stem 3 Extend Pressure Relief Valve
309	GY	Start Control Relay	K860	Bu	Stem 1 Retract Pressure Relief Valve
310	PU	Engine Control to Start Aid Switch	K862	Gy	Stem 3 Retract Pressure Relief Valve
320	OR	Horn Switch	K864	Pk	Variable Relief 1 Pressure Relief Valve
321	BR	Travel Alarm Relay	K865	Pu	Variable Relief 2 Pressure Relief Valve
322	GY	Horn Relay	K866	Wh	1-Way / 2-Way Change Solenoid
325	PK	Refueling Level Switch	K868	Br	Pressure Relief Valve Return
326	PU	Key Sw 'C' Terminal	K869	Bu	Pressure Relief Valve Return
330	YL	Start Control Relay	K871	Wh	1 Pump/ 2Pump Exchange Solenoid
331	OR	Travel Alarm Relay	K904	Gn	Pump Pressure Sensor 1

# WIRE DESCRIPTION

Page 2 of 2



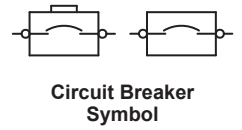
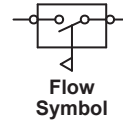
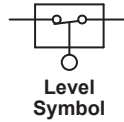
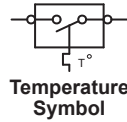
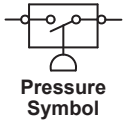
Wire Number	Wire Color	Description	Wire Number	Wire Color	Description
<b>Monitoring Circuits</b>					
403	GN	Service Meter Signal	K906	Gn	Swing Brake Cancel Solenoid
405	GY	Engine Oil Pressure	K907	Bu	Swing Brake Solenoid
410	WH	Action Alarm	K928	Gn	Stick In Limit PRV (AccuGrade)
412	BU	Coolant Level	K930	Gn	Stick out Avoid. PRV (AccuGrade)
430	BU	Air Cleaner Switch	K931	Gn	Bucket Lock Solenoid Diode
487	OR	Capsule Filter Switch	K949	Or	Boom Up Limit PRV (SR)
491	PK	Hydraulic Oil Temperature	K950	Yl	Boom Down Limit PRV (SR)
492	GY	Coolant Temperature Sensor Signal	K952	Br	Backup Crane Switch
495	GN	Fuel level Sensor	K995	Or	Air Heater
496	WH	Hydraulic Oil Level	L730	Or	Analog Sensor Pwr (+5V)(Secondary ECM)
A400	PK	Fuel Pressure. Sender	L731	Br	Analog Sensor Return (Secondary ECM)
C468	BU	Engine Oil Level	L885	Bu	Switch Panel Option Switch
E410	OR	Boom Cylinder Head Pressure Sensor	L886	Br	Switch Panel Option Switch
E411	YL	Boom Cylinder Rod Pressure Sensor	L968	Or	Pressure Relief Valve Return
E441	GN	Boom Angle Position	L969	Wh	PS Pressure Relief Valve
E442	GN	Stick Angle Position	L971	Gn	Travel Pressure Switch
E445	BU	Boom Down Pressure	L972	Bu	One Touch Low Idle Switch
E472	GN	8V Sensor Supply +	L973	Gn	Fine Swing Solenoid
E473	GY	Right Hand Thumb Wheel	L978	Gy	Leveling Switch
E474	OR	Left Hand Thumb Wheel	M736	Bu	Backup EPR Valve Switch
E480	PK	Overload Warning Switch	M737	Wh	Flow Limit Pressure Relief Valve
H476	WH	Joystick Pressure Switch	M739	Yl	Pressure Relief Valve Return
<b>Accessory Circuits</b>					
501	GN	Wiper (Low)	M743	Pu	Boom Float Disable Relay Coil
506	PU	Washer +	M744	Wh	Boom Float Disable Relay
508	PU	Left Speaker +	M745	Gy	Smart Boom Up/Down Relay Coil
509	WH	Left Speaker -	M746	Yl	Smart Boom Down Relay Coil
511	BR	Right Speaker +	M747	Bu	Smart Boom Down Relay
512	GN	Right Speaker -	M748	Br	Smart Boom Down Relay
530	OR	Washer	M749	PK	Boom Up/Down Pressure Switch
535	BU	Under Window Limit Sw. to Lwr Wiper Motor	M751	Pu	Crane Cancel Switch
575	YL	Wiper (Park)	M755	Gn	Bucket Extend Pressure Switch (Crane)
576	PK	Wiper (Low)	M843	Pu	Boom up Pilot Pressure (AccuGrade)
578	BU	Lower Washer Switch	M906	Bu	Squeeze Pressure Sensor
590	GY	Intermittent 3	M997	Pu	2 Way Lever Change Solenoid
592	BU	12V Converter 24V Switched In +	N769	Gy	Engine Oil Pressure (secondary ECM)
A513	PK	12V Converter 24V Battery In +	N793	Gn	Foot Pedal Switch
A537	PK	Seat Heater	N794	Gy	Pedal-LH
A549	BU	Solenoid Diodes	N957	Pk	RXD - Comm #1
A579	OR	Wiper Motor +	N959	Pk	RXD - Comm #3
A580	BR	Wiper Motor -	N960	Or	TXD - Comm #1
A581	GN	Wiper Motor Reverse	N963	Or	TXD - Comm #3
A582	PU	Wiper Motor Stop	N970	Yl	DTR - Comm #1
A584	BU	Wiper Motor Cut	N973	Br	DCD - Comm #1
A586	OR	Intermittent 6	N979	Gn	Signal Ground - Comm #1
A588	GN	Hydraulic Lock Lever Switch	N981	Gn	Signal Ground - Comm #3
C560	OR	Auxiliary Speaker +	P725	Pk	Boom Regenerative Solenoid
C565	PK	Auxiliary Speaker -	P769	Yl	Machine ECM To Sensor Power (8V)
C569	YL	Converter 2 12V Switch Out +	P992	Br	Tool Priority Relay
E554	PK	A/C Compressor Clutch Solinoid	R725	Wh	Second Filter Switch
E562	PU	Universal Quick Connect Switch	R997	Or	5V Sensor Power
E564	PK	Quick Connect Hydraulic Lock On Relay	T725	Wh	Fuel Filter Sw
E565	BU	Quick Connect Hydraulic Lock 2 Relay	T861	Yl	Fuel Temperature Sensor
<b>Lighting Circuits</b>					
603	PK	Beacon Switch	T901	Yl	MSSExciter Coil In
607	PK	Indicator Unit	T902	Pk	MSS Exciter Coil Out
615	YL	Cab Lamp LH/RH	T951	Yl	Injector 1 High-side
616	BU	Boom Lamp Relay	T952	Br	Injector 2 High-side
638	WH	Beacon Relay	T953	Bu	Injector 3 High-side
645	PK	Boom Lamp Relay	T954	Gy	Injector 4 High-side
646	OR	Chassis Lamp Relay	T957	Pu	Injector 1 Return
684	OR	Lamp Delay Timer	T958	Yl	Injector 2 Return
A623	BU	Chassis Lamp Relay	T959	Br	Injector 3 Return
<b>Control Circuits</b>					
251	BK	CAN 1	T960	Bu	Injector 4 Return
252	BK	CAN 2	T967	Yl	Pump Pressure Sensor 2
261	BK	CAN 1	X731	Bu	Boost Pressure Signal To Controller
262	BK	CAN 2	X738	Pk	Return Filter Switch To Controller
763	BU	Travel Speed Solinoid	X747	Pk	Engine Speed Sensor To Controller
779	WH	Quick Connect Low Solinoid	X794	Bu	Stick Out Limit Pressure Relief Valve
			Y946	Bu	Fuel Rail Pressure Signal
			Y950	Yl	Fuel Pump Solenoid Signal
			Y951	Pu	Fuel Pump Solenoid Return

# HARNESS and WIRE

## Electrical Schematic Symbols



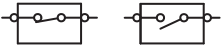
### Symbols



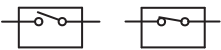
### Symbols and Definitions



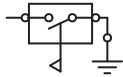
**Fuse:** A component in an electrical circuit that will open the circuit if too much current flows through it.



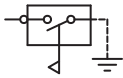
**Switch (Normally Open):** A switch that will close at a specified point (temp, press, etc.). The circle indicates that the component has screw terminals and a wire can be disconnected from it.



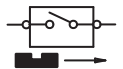
**Switch (Normally Closed):** A switch that will open at a specified point (temp, press, etc.). No circle indicates that the wire cannot be disconnected from the component.



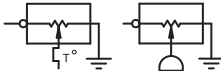
**Ground (Wired):** This indicates that the component is connected to a grounded wire. The grounded wire is fastened to the machine.



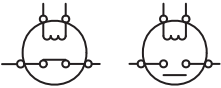
**Ground (Case):** This indicates that the component does not have a wire connected to ground. It is grounded by being fastened to the machine.



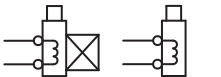
**Reed Switch:** A switch whose contacts are controlled by a magnet. A magnet closes the contacts of a normally open reed switch; it opens the contacts of a normally closed reed switch.



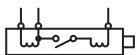
**Sender:** A component that is used with a temperature or pressure gauge. The sender measures the temperature or pressure. Its resistance changes to give an indication to the gauge of the temperature or pressure.



**Relay (Magnetic Switch):** A relay is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close the switch part of the relay.



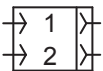
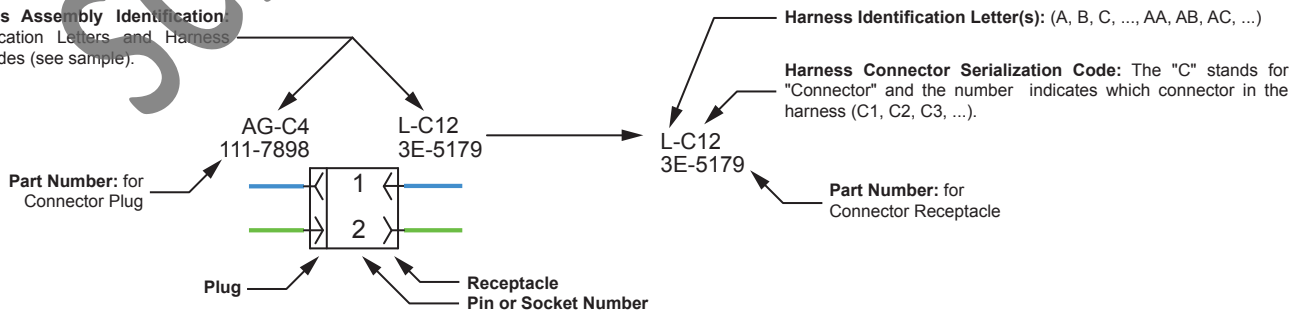
**Solenoid:** A solenoid is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close a valve or move a piece of metal that can do work.



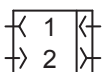
**Magnetic Latch Solenoid:** A magnetic latch solenoid is an electrical component that is activated by electricity and held latched by a permanent magnet. It has two coils (latch and unlatch) that make electromagnet when current flows through them. It also has an internal switch that places the latch coil circuit open at the time the coil latches.

### Harness and Wire Symbols

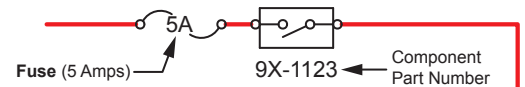
**Wire, Cable, or Harness Assembly Identification:** Includes Harness Identification Letters and Harness Connector Serialization Codes (see sample).



**Deutsch connector:** Typical representation of a Deutsch connector. The plug contains all sockets and the receptacle contains all pins.

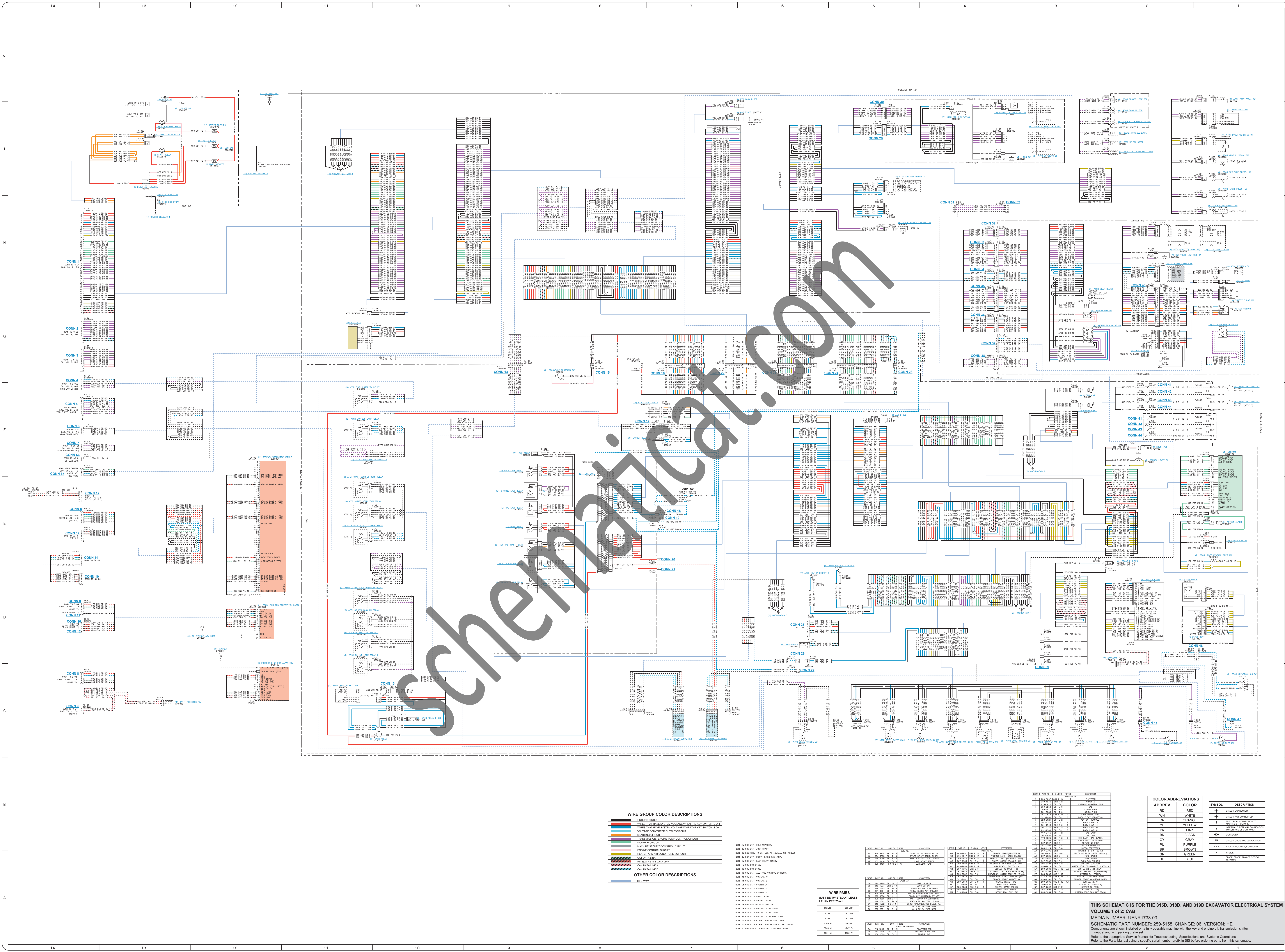


**Sure-Seal connector:** Typical representation of a Sure-Seal connector. The plug and receptacle contain both pins and sockets.



**Harness identification code:** This example indicates wire group 325, wire 135 in harness "AG".

325-AG135 → **Wire Gauge** → **Wire Color** → PK-14



**WIRE GROUP COLOR DESCRIPTIONS**

[Red line]	GROUND CIRCUIT
[Blue line]	WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS OFF
[Orange line]	WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS ON
[Green line]	WIRING CONNECTED TO THE STARTING CIRCUIT
[Yellow line]	STARTING CIRCUIT
[Purple line]	TRANSMISSION ENGINE PUMP CONTROL CIRCUIT
[Pink line]	MONITOR CIRCUIT
[Light Blue line]	MACHINE SECURITY CONTROL CIRCUIT
[Light Green line]	ENGINE CONTROL CIRCUIT
[Light Orange line]	EXHAUST AND AIR CONDITIONER CIRCUIT
[Light Purple line]	DATA LINK
[Light Yellow line]	VIDEO DATA LINK
[Light Cyan line]	DATA LINK A
[Light Magenta line]	DATA LINK B
[Light Blue line]	DATA LINK C
[Light Green line]	DATA LINK D
[Light Orange line]	DATA LINK E
[Light Purple line]	DATA LINK F
[Light Yellow line]	DATA LINK G
[Light Cyan line]	DATA LINK H
[Light Magenta line]	DATA LINK I
[Light Blue line]	DATA LINK J
[Light Green line]	DATA LINK K
[Light Orange line]	DATA LINK L
[Light Purple line]	DATA LINK M
[Light Yellow line]	DATA LINK N
[Light Cyan line]	DATA LINK O
[Light Magenta line]	DATA LINK P
[Light Blue line]	DATA LINK Q
[Light Green line]	DATA LINK R
[Light Orange line]	DATA LINK S
[Light Purple line]	DATA LINK T
[Light Yellow line]	DATA LINK U
[Light Cyan line]	DATA LINK V
[Light Magenta line]	DATA LINK W
[Light Blue line]	DATA LINK X
[Light Green line]	DATA LINK Y
[Light Orange line]	DATA LINK Z

**OTHER COLOR DESCRIPTIONS**

- RESISTORS
- DIODES
- RELAYS
- SOLENOIDS
- SWITCHES
- INDICATORS
- ALARMS
- HOLOGRAMS
- WIRE PAIRS

**WIRE PAIRS**

MUST BE TWISTED AT LEAST 1 TURN PER INCH.

20/20	20 GA.
22/22	22 GA.
24/24	24 GA.
26/26	26 GA.
28/28	28 GA.
30/30	30 GA.
32/32	32 GA.
34/34	34 GA.
36/36	36 GA.
38/38	38 GA.
40/40	40 GA.
42/42	42 GA.
44/44	44 GA.
46/46	46 GA.
48/48	48 GA.
50/50	50 GA.

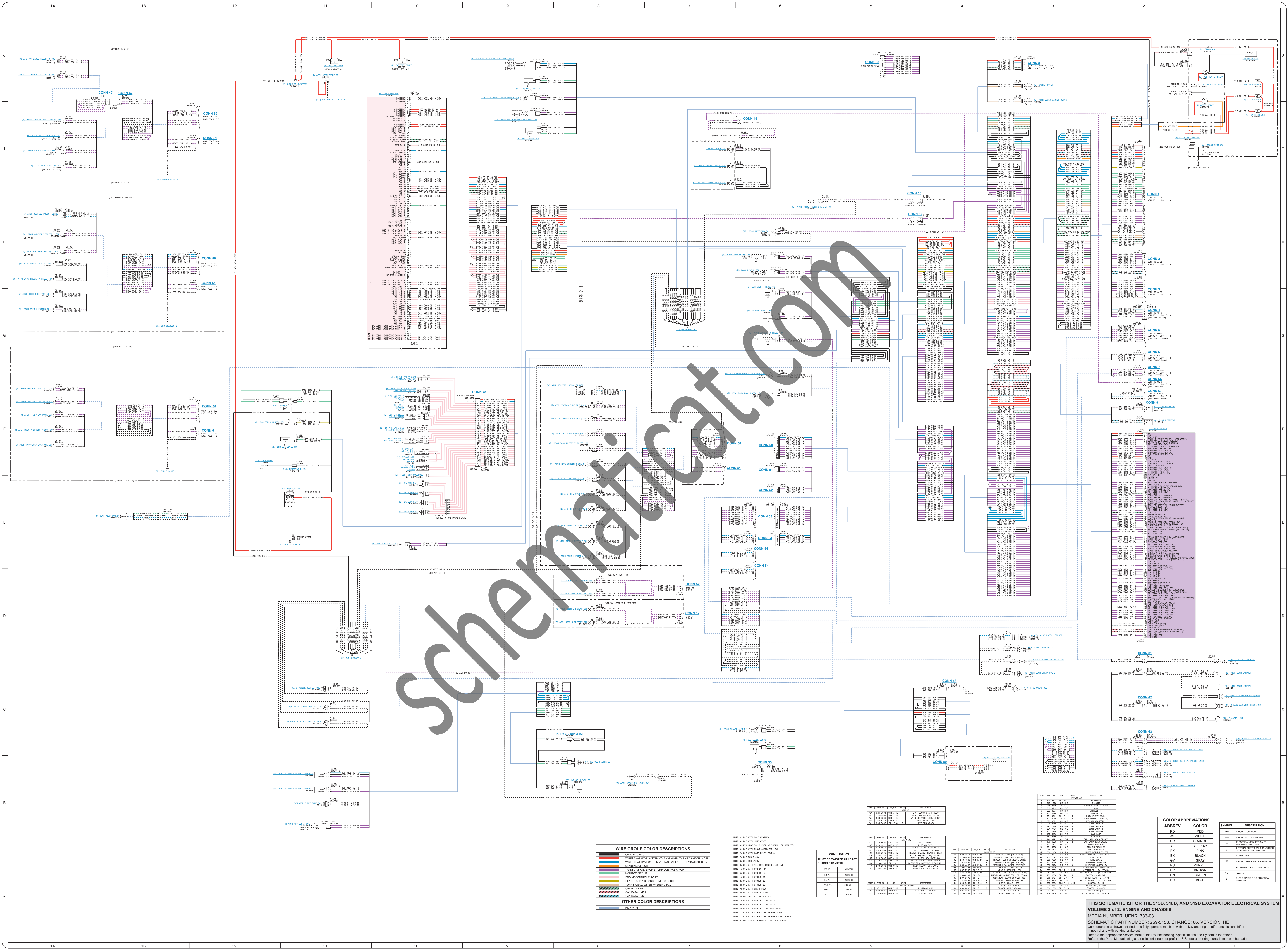
**WIRE PAIRING**

WIRE PAIR	WIRE 1	WIRE 2	WIRE PAIR	WIRE 1	WIRE 2
1	100	101	10	110	111
2	102	103	11	112	113
3	104	105	12	114	115
4	106	107	13	116	117
5	108	109	14	118	119
6	110	111	15	120	121
7	112	113	16	122	123
8	114	115	17	124	125
9	116	117	18	126	127
10	118	119	19	128	129
11	120	121	20	130	131
12	122	123	21	132	133
13	124	125	22	134	135
14	126	127	23	136	137
15	128	129	24	138	139
16	130	131	25	140	141
17	132	133	26	142	143
18	134	135	27	144	145
19	136	137	28	146	147
20	138	139	29	148	149
21	140	141	30	150	151
22	142	143	31	152	153
23	144	145	32	154	155
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25	148	149	34	158	159
26	150	151	35	160	161
27	152	153	36	162	163
28	154	155	37	164	165
29	156	157	38	166	167
30	158	159	39	168	169
31	160	161	40	170	171
32	162	163	41	172	173
33	164	165	42	174	175
34	166	167	43	176	177
35	168	169	44	178	179
36	170	171	45	180	181
37	172	173	46	182	183
38	174	175	47	184	185
39	176	177	48	186	187
40	178	179	49	188	189
41	180	181	50	190	191
42	182	183	51	192	193
43	184	185	52	194	195
44	186	187	53	196	197
45	188	189	54	198	199
46	190	191	55	200	201
47	192	193	56	202	203
48	194	195	57	204	205
49	196	197	58	206	207
50	198	199	59	208	209

**COLOR ABBREVIATIONS**

ABBREV	COLOR	SYMBOL	DESCRIPTION
RD	RED	+	GROUND CONNECTION
WH	WHITE	-	CIRCUIT NOT CONNECTED
OR	ORANGE	+	ELECTRICAL CONNECTION TO
YL	YELLOW	+	ELECTRICAL CONNECTION TO
PK	PINK	+	ELECTRICAL CONNECTION TO
BLK	BLACK	+	GROUND
GRY	GRAY	+	GROUND (NON-INSULATED)
PUR	PURPLE	+	GROUND (NON-INSULATED)
BRN	BROWN	+	BLUE
GN	GREEN	+	BLUE
BLU	BLUE	+	BLUE

**THIS SCHEMATIC IS FOR THE 315D, 318D, AND 319D EXCAVATOR ELECTRICAL SYSTEM**  
**VOLUME 1 of 2: CAB**  
**VOLUME # of 2: CAB**  
**MEDIA NUMBER: JEHR1733-03**  
**SCHEMATIC PART NUMBER: 259-5158, CHANGE: 06, VERSION: HE**  
 Components are shown installed on a fully operable machine with the key and engine off, transmission shifter in neutral and with parking brake set.  
 Refer to the appropriate Service Manual for Troubleshooting, Specifications and Systems Operations.  
 Refer to the Parts Manual using a specific serial number prefix in SIB before ordering parts from this schematic.



**WIRE GROUP COLOR DESCRIPTIONS**

[Red]	IGNITION CIRCUIT
[Blue]	WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS OFF
[Green]	WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS ON
[Yellow]	STARTING CIRCUIT
[Orange]	TRANSMISSION CONTROL (POWER TAKE OFF)
[Purple]	MONITOR CIRCUIT
[Pink]	ENGINE CONTROL CIRCUIT
[Light Blue]	HEATER AND AIR CONDITIONER CIRCUIT
[Light Green]	TURN SIGNAL, WIPER, POWER WINDOW CIRCUIT
[Light Yellow]	DATA LINK
[Light Purple]	CONSOLE LINKS
[Light Blue-Gray]	CONSOLE LINKS

**OTHER COLOR DESCRIPTIONS**

[Red]	GROUND
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**WIRE PAIRS MUST BE TWISTED AT LEAST 1 TURN PER 20mm**

PAIR #	WIRE #1	WIRE #2	DESCRIPTION
1	100	101	IGNITION
2	102	103	STARTING
3	104	105	TRANSMISSION
4	106	107	MONITOR
5	108	109	ENGINE
6	110	111	HEATER
7	112	113	TURN SIGNAL
8	114	115	DATA LINK
9	116	117	CONSOLE
10	118	119	CONSOLE

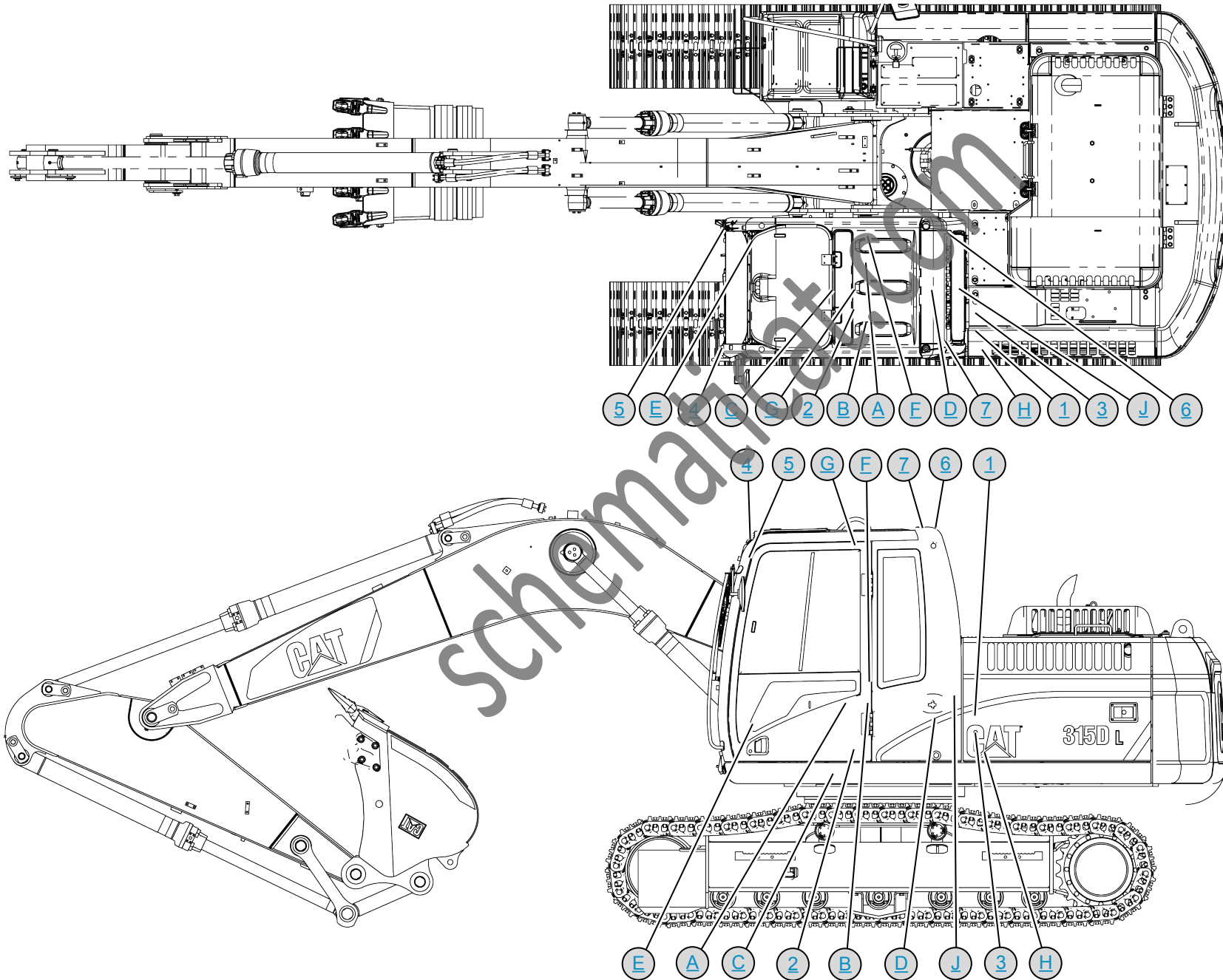
**COLOR ABBREVIATIONS**

ABBREV	COLOR	SYMBOL	DESCRIPTION
RD	RED	—	GROUND
WH	WHITE	+	GROUND NOT CONNECTED
OR	ORANGE	+	WIRE PAIR CONNECTED TO WIRE PAIR
YL	YELLOW	+	WIRE PAIR CONNECTED TO WIRE PAIR
PK	PINK	+	GROUND
CB	BLACK	+	GROUND
GY	GRAY	+	GROUND
PU	PURPLE	+	GROUND
BR	BROWN	+	GROUND
GN	GREEN	+	GROUND
BL	BLUE	+	GROUND

THIS SCHEMATIC IS FOR THE 315D, 318D, AND 319D EXCAVATOR ELECTRICAL SYSTEM  
 VOLUME 2 of 2: ENGINE AND CHASSIS  
 MEDIA NUMBER: UENR1733-03  
 SCHEMATIC PART NUMBER: 259-5158, CHANGE: 06, VERSION: HE  
 Components are shown installed on a fully operable machine with the key and engine off, transmission shifter in neutral and with parking brake set.  
 Refer to the appropriate Service Manual for Troubleshooting, Specifications and Systems Operations.  
 Refer to the Parts Manual using a specific serial number prefix in SIB before ordering parts from this schematic.



# MACHINE HARNESS CONNECTOR AND COMPONENT LOCATIONS - CAB



# MACHINE HARNESS CONNECTOR AND COMPONENT LOCATIONS - ENGINE AND CHASSIS

